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BY A. G. BEEBE, A. M., M. D., CHICAGO.

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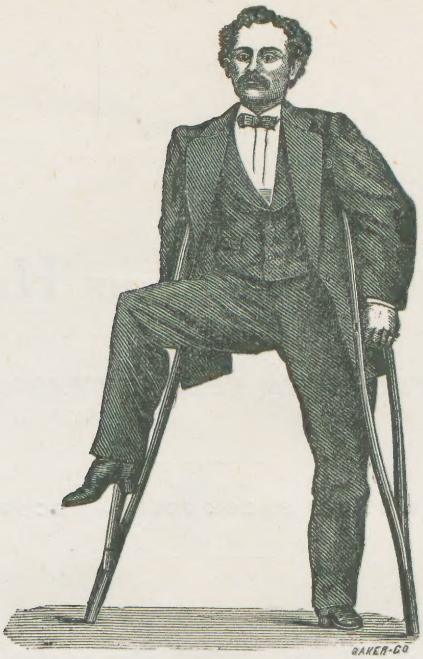
A CASE OF

Bony Anchylosis of the Hip Joint

OF FOURTEEN YEARS DURATION.

FORMATION OF FALSE JOINT—RECOVERY.

Louis Le Petre, of Chicago, a musician, 28 years of age (at the time of the operation), was attacked when 14 years old by acute osteitis of the right hip joint and upper portion of the shaft of the femur; the result of the injudicious use of Mercurial ointment (for psoriasis) and subsequent exposure. This resulted in confining him to bed for several months, during which time he suffered from quite extensive necrosis and exfoliation of the bones composing the hip joint, (with the consequent abscesses and sinuses common to such cases,) and severe phlebitis affecting the entire extremity. During the progress of the disease the flexor muscles became contracted, as we should expect, and when the patient was at length able to leave his bed he found the thigh immovably fixed in the position it had assumed while lying upon the back with the knee drawn up and at the same time resting upon the bed, *i.e.*, when erect, the knee was somewhat higher than the hip, and projected directly outward from the right side. In this position it had remained for about fourteen years, or until the spring of 1871, when I first saw it. This cut was engraved from a ferrotype taken but a few days before the operation.



Upon examination there was every evidence of perfect bony anchylosis. There were several large cicatrices in the vicinity of the joint and upon the anterior aspect of the thigh; the principal one penetrating the belly of the rectus femoris, and uniting it firmly to the fascia lata. The angular space between the femur and pelvis was entirely filled by a dense plastic exudation, which extended down as far as the middle of the femur, and was so firm as to be mistaken, by at least one surgeon who examined it, for an enlargement of the bone itself. The case had been examined by most, if not all, of the prominent surgeons of this city. One had, at first, ventured to suggest the possibility of dividing the bone and securing anchylosis in a straight position; but, upon noticing the exudation before mentioned, gravely shook his head and had nothing to offer. Another thought amputation at the hip the only surgical resource, and the remainder thought it best to let it alone. This, however, the patient, being a young man with a

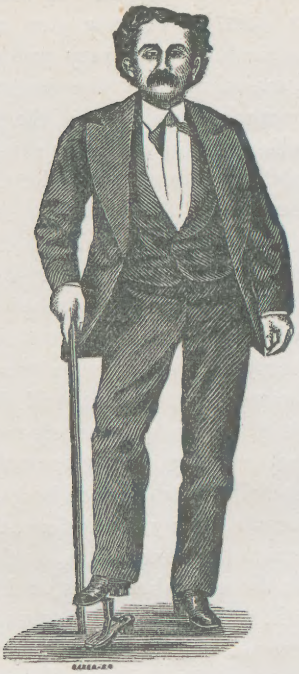
future before him, was not willing to accept, and when I told him I thought he might yet have a useful hip joint and throw away his crutches, he seemed inclined to accept my view of the case.

Accordingly, on May 22, 1871, assisted by Drs. G. D. Beebe and J. A. Steele, I proceeded to operate. The case was, I believe, entirely *sui generis;* not only as regarding the extreme displacement but also the condition of the adjacent tissues. The position of the bones, especially the abduction, forbade the operations either of Barton or Sayre. The same complication, as well as the uncertainty as to the condition in which the bone would be found, precluded the employment of the subcutaneous method of W. Adams. I therefore determined to cut down behind the trochanter major and, if possible, pass a chain saw about the neck of the bone and divide it, leaving all the muscles inserted into the trochanters nearly intact, thereby securing as perfect voluntary motion of the new joint as possible. The incision employed was crescentic in form and about six inches in length, with the convexity directed forward toward the trochanter major. The various steps of the operation were, after some perseverance, accomplished. The joint was found to be totally obliterated, as if the head of the femur had been fused into the socket. So much of the neck as remained attached to the innominate was removed by bone forceps, and the upper extremity of the femur was allowed to slide upward and backward as in dislocation upon the dorsum of the ilium. This, of course, somewhat relaxed the contractured femoral muscles; the tendons of some of the more prominent ones were also divided subcutaneously, but even after this the plastic exudation about the thigh prevented it from being brought down very much nearer its natural position. No vessels, requiring attention, were divided, and no hæmorrhage of importance occurred. The incision was closed by interrupted sutures of silver wire and covered by antiseptic dressings. The patient reacted well from the *Chloroform*, having been under its influence about one hour and a half. During the first ten days nothing of special interest occurred. The dressings were rendered difficult and painful, (as, indeed, was the whole of the patient's experience while in bed,) by the fact that when lying on the back the weight of the body rested heavily on the wound, and made it necessary at every dressing, or more frequently, for relief, to turn him on his face, and in doing so the position of the parts was more or less

disturbed. However, by the end of ten days the incision had apparently united and the sutures were gradually removed. In a day or two afterward the line of the incision began to reopen, and by the 3rd of June the wound was gaping widely, showing in the deeper portion a large blood clot which had evidently produced the disturbance. This was, in part, carefully removed, and the wound drawn together as well as possible by adhesive straps.

On June 4th, I was summoned in haste to see him, about two hours after making my morning visit, and found bright blood flowing abundantly from the wound, so much having been already lost that he had fainted once or twice, and was becoming nearly exhausted. Passing my finger down to the bottom of the wound, I became satisfied the hæmorrhage came from the cancellous tissue of the divided bone, or from granulations immediately in the vicinity, and at once thrust down upon the bleeding surface a pledget of lint saturated with a solution of the *Persulphate of iron.* This arrested the bleeding, but it recurred two or three days later from the motion of turning the patient over, ceasing before I reached him to interfere. Following this, and partly in consequence of his being compelled to remain immovably in one position for so long a time to avoid hæmorrhage, phlebitis supervened, affecting the entire thigh and leg, with some tendency toward erysipelas; but this was all controlled, in the course of a few days, without any injury, beyond the formation of two or three small superficial abscesses, which healed readily. Notwithstanding these untoward events, and the depressing effect of a hot season, the patient was able to be out of bed at the end of eight weeks, and was walking about, with the aid of crutches, in two weeks more.

During the time since the operation, the plastic deposit in the groin had been gradually giving way. At one time it presented very much the appearance of a cake of ice broken in pieces, and traversed in all directions by wide fissures. This was nearly all gradually absorded, though the process required some months for its completion, as was expected. The limb was, by degrees, coaxed down into a more natural position, and, when well enough to bear it, a weight and pully were employed to assist in the process. When the patient was able to be up throughout the day a modification of Sayre's short extension splint for the hip was substituted for the weight, which was sometimes attached at night.



By the time cicatrization of the wound was completed, or about the middle of August, the new joint at the hip had become sufficiently solidified to enable the patient to bear nearly his entire weight upon it. It also admitted considerable voluntary motion, showing that the most important of the muscles had been preserved. Since that time up to the present, (Dec., 1872,) the improvement in all respects has been gradually progressing, and the appearance is fairly represented by this illustration, drawn from a ferrotype taken December 9th, 1872.

He now walks readily up and down stairs, or on a level, gets in and out of vehicles, etc., with only a cane. The actual shortening of the limb is about 2½ inches. This is due, in part, to the fact that it did not keep pace with the other in development, being thrown out of use and affected by the disease for so long a time, and, of course, there is a displacement of the femur backward and upward, so far as the ilio-femoral ligament will allow, or proba-

bly, in this case, about two inches. It will be noticed by the engraving, however, that he wears a step about five inches in height; and this is rendered necessary partly by some degree of flexion at the hip, maintained by the contractured muscles and fascia, and also by a marked obliquity of the pelvis, which is quite apparent in this position. This obliquity resulted, evidently, from contraction of the abdominal muscles of the affected side in carrying this limb off the ground for so long a time, and the natural tendency to throw the center of gravity of the body as nearly as possible over the point of support, *i.e.*, the sound hip joint. This position, of course, produced a very marked lateral curvature of the lumbar spine, which has become pretty solidly anchylosed in this position. Probably the reparative efforts of nature, aided by an appropriate apparatus, will, in time, still further remedy these conditions. The joint is now quite freely movable, or to the extent of 45°. It is not sensitive, and gives no pain from use, even when sustaining the entire weight of the body. In short, the artificial joint is as successful as any of the few other cases on record, and promises to be more permanently so, as the socket formed for the femur is partly in the gluteal muscles, and partly from the surface of the dorsum ilii, and offers no opportunity for future anchylosis, as has happened, sooner or later, in most, if not all, of the cases by Barton's or Sayre's methods.

So successful a result in a case presenting such unprecedented complications, certainly encourages the hope that much might be done in many cases now abandoned as hopeless; although no small influence favorable to success in this case was, undoubtedly, exercised by the excellent constitution, temperate habits and unflinching courage of the patient, as well as by carefully selected homœopathic remedies.

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